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| 10/814,917 | 03/31/2004 | Che-Hsiung Hsu | UC0420USNA | 6333 |

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E I DU PONT DE NEMOURS AND COMPANY
LEGAL PATENT RECORDS CENTER
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4417 LANCASTER PIKE
WILMINGTON, DE 19805

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| EXAMINER |
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WOODWARD, ANA LUCRECIA

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| ART UNIT | PAPER NUMBER |
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1711

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 01/24/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/814,917

Applicant(s)

HSU, CHE-HSIUNG

Examiner

Ana L. Woodward

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on October 16, 2006
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 13-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16 is/are allowed.
- 6) ☒ Claim(s) 1-9, 13-15 and 17-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102/103

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7, 13, 14, 17 and 18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. 5,300,575 (Jonas et al).

Jones et al disclose aqueous dispersions comprising polythiophene, polyanion and monoacid. Patentees' composition per example 7 comprises polythiophene, reading on the presently claimed conductive polymer, polystyrene sulfonic acid, reading on the presently claimed colloid-forming polymeric acid, p-toluenesulfonic acid and iron sulfate, the latter reading on the presently claimed non-polymeric organic acid anion. The polythiophene composition obtained is coated onto a polycarbonate film

The disclosure of the reference meets the requirements of the above-rejected claims in terms of the types of materials added. The onus is shifted to applicants to establish that the product of the present claims is not the same as or obvious from that set forth by the reference.

As to claim 2, given the chemical similarity of patentees' aqueous composition to that presently claimed, it is reasonable to presume that the former would inherently possess an acidic pH, particularly in light of the excess free acid groups present in the composition. The pH, however, can be adjusted via addition of alkali or alkaline earthy hydroxides, ammonia or amines (column 4, lines 43-49).

As to claims 13, 14, 17 and 18, the deposition of coated layers of the composition onto substrates so as to render them antistatic or electrically conductive is within the general disclosure of Jonas et al. Coatings obtained by the invention are particularly suited for the antistatic treatment of photographic devices (column 5, lines 14-34).

Claim Rejections - 35 USC § 103

4. Claims 8, 9, 15, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 5,300,575 (Jonas et al), described hereinabove, in view of U.S. 5,002,700 (Otagawa et al).

In essence, the composition per claims 8, 9 and 15 differ from those taught by Jonas et al in the use of a different polymeric sulfonic acid. Whereas applicants claim a (per)fluorinated polymeric sulfonic acid, patentees exemplify a polyvinyl sulfonic acid. In this regard, attention is directed to Otagawa et al's teachings that the claimed fluorinated sulfonic acid polymer (modified NAFION solution) and the polyvinyl sulfonic acid of Jonas et al are functional dopant equivalents for similar-such conductive polymers (column 4, lines 2-4). Accordingly, it would have been obvious to one having ordinary skill in the art to have substituted the claimed fluorinated sulfonic acid polymer for the polyvinylsulfonic acid expressly used by Jonas et al with the reasonable expectation of success. Absent evidence of unusual or unexpected results, no patentability can be seen in said claimed subject matter.

The preparation of the polythiophene dispersion can be performed in the presence of polymer lattices or polymer dispersions which contain acidic groups (column 4, lines 63-68), thus rendering obvious claims 19 and 20.

6. Claims 1-9, 13-15 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 5,002,700 (Otagawa et al) in view of U.S. 5,300,575 (Jonas et al) and U.S. 5,185,100 (Han et al)

Otagawa et al disclose an electrically conductive polymer comprising (a) an electrically polymerized polyaniline, reading on the presently claimed conductive polymer in covalent combination with (b) an organic dopant having at least one sulfonic acid functional group, encompassing both non-polymeric organic acids (e.g., toluenesulfonic acid), reading on the presently claimed non-polymeric organic acid dopant, and polymeric acids (e.g., modified NAFION), reading on the presently claimed colloid-forming polymeric acid. The aniline is electropolymerized in an aqueous solvent which contains the dopant. The doped polyanilines are useful as films for electric battery electrodes, and for electrochromic applications.

In essence, the disclosure of the reference differs from the claimed invention in not expressly disclosing the use of more than one sulfonic acid-containing dopant, i.e., a mixture of a dopant reading on the presently claimed colloid-forming polymeric acid and a dopant reading on the presently claimed non-polymeric organic acid. Patentees, however, teach that sulfonic acid containing polymers and sulfonic acid-containing non-polymeric acids are useful individually as dopants. In view of these teachings, it would have been obvious to one having ordinary skill in the art to have employed a mixture of said dopants, for their expected additive effect. In this regard, it is noted that it is prima facie obvious to combine two materials each of which is taught

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by the prior art to be useful for the same purpose in order to form a third composition which is to be used for the very same purpose. The idea of combining them flows logically from their having been individually taught in the prior art. Furthermore, the use of dopant mixtures is well known in the art, as evidenced by Jonas et al (example 7) and Han et al (abstract). Accordingly, absent evidence of unusual or unexpected results, no patentability can be seen in the presently claimed subject matter.

As to claim 2, it is not seen that the claimed pH limitation distinguishes over those set forth by the reference. In this regard, pH values of 2.3, 1.1, etc, are noted in the experimental tables 4, 5, etc..

Response to Arguments

7. Applicant's arguments filed October 16, 2006 have been fully considered but they are not persuasive.

Regarding Otagawa et al, it is maintained that it would have been obvious to one having ordinary skill in the art to have employed a mixture of dopants, for their expected additive effect. Patentees clearly teach that sulfonic acid containing polymers and sulfonic acid-containing non-polymeric acids are useful individually as dopants. It is prima facie obvious to combine two materials each of which is taught by the prior art to be useful for the same purpose in order to form a third composition which is to be used for the very same purpose. The idea of combining them flows logically from their having been individually taught in the prior art. Furthermore, the use of dopant mixtures is well known in the art, as evidenced by Jonas et al (example 7) and Han et al (abstract). Accordingly, absent evidence of unusual or unexpected results, no patentability can be seen in the presently claimed subject matter.

Allowable Subject Matter

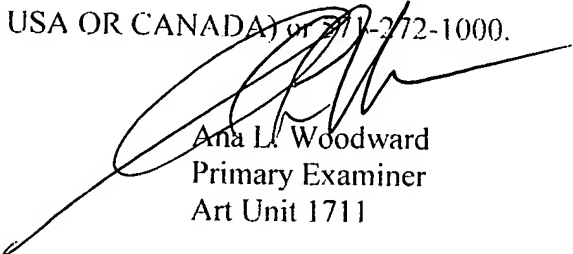
8. Claim 16 is allowed. The prior art of record neither anticipates nor renders obvious a buffer layer made from an aqueous dispersion comprising polypyrrole, non-polymeric acid dopant and polymeric perfluoroethylenesulfonic acid.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana L. Woodward whose telephone number is (571) 272-1082. The examiner can normally be reached on Monday-Friday (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Ana L. Woodward
Primary Examiner
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